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BIRD NOTES FROM THE COAST OF SAN LUIS OBISPO COUNTY

By G. WILLETT

NORTH of Port Harford, in San Luis Obispo County, the coast for about fifteen miles is very rough and broken. A range of high, pine-covered hills comes down to the ocean's edge and is abruptly cut off forming bluffs and rocky precipices, in many cases high and overhanging. From the surf-line out to about a mile are occasional small, rocky islands which have from time to time been detached from the mainland by the action of the water.

The coast here being unprotected from the swell of the ocean, the surf runs very high; and the bird student finds that in order to cover the territory to any great extent he must lay himself liable to frequent drenchings by a cold and un pitying ocean, and numerous bruises and cuts from sharp-pointed rocks. Indeed he may call himself fortunate if he escapes broken bones. I verily believe that I left nearly as much of my cuticle on the rocks up there as I brought home with me.

The above locality was chosen by me as an ideal place to spend my 1909 vacation of fifteen days.

Accompanied by Mr. Antonin Jay of the Cooper Club, the writer with his family left Los Angeles on May 5 for San Luis Obispo, taking a full camping outfit. On the morning of May 6 we left San Luis Obispo by wagon and after a long day's journey over rough mountain roads, made almost impassable by recent rains, we finally pitched camp on a small creek about a half mile from the ocean. This creek, by the way, was fairly alive with trout, and being well supplied with fishing tackle we were not slow to take advantage of this fact. Between trout, rabbits, mussels and abalones, we were plentifully supplied with fresh meat during our entire stay.

I had previously visited this locality in 1895; but my stay at that time being limited to two days, it was practically a new territory to me. This year, however, we managed to go over the ground pretty thoroughly, and I do not think that many species of birds that were breeding here escaped our notice.

I believe this is the most southern point in California where the seabirds breed in any numbers on the mainland coast. Of the large land birds the Golden Eagle, Turkey Buzzard, Western Redtail, Duck Hawk and Raven were common; but, altho the location seemed ideal for Bald Eagles and Fish Hawks, none of these latter were seen.

The commonest of the smaller land birds was the Nuttall Sparrow (*Zonotrichia leucophrys nuttalli*) which was breeding abundantly in the low brush from the water's edge to a mile or more back into the hills and canyons. Horned Larks, House Finches, Song Sparrows, Lazuli Buntings, Willow Goldfinches, California Jays, Mourning Doves, Brewer and Red-winged Blackbirds, Anna and Allen Hummers, Flickers, Willow Woodpeckers, Wren-tits, Russet-backed Thrushes, Yellow and Pileolated Warblers, Western Flycatchers, and other common species were breeding abundantly.

The Willow Goldfinches were breeding almost entirely in the low brush on the hillsides altho there was plenty of willow timber along the creeks. Barn, Cliff, Bank and Violet-green Swallows were breeding commonly and at least two pairs of Kingfishers (*Ceryle alcyon*) were feeding young in holes in the creek banks. White-throated Swifts were frequently seen in the canyons, and two specimens taken May 15 were evidently about to breed.

Of the seabirds we found breeding the Western Gull, Brandt and Baird Cormorants, Tufted Puffin, Pigeon Guillemot and Black Oystercatcher. Tattlers,

Phalaropes, Curlew, Spotted Sandpipers, and some other waders were seen in migration. The Western Gulls (*Larus occidentalis*) were scattered out, breeding on the small islands and detached portions of the bluff. The largest colony found did not number over twenty-five pairs, and frequently only one pair would be breeding on a rock. We noticed that the nests built on the soil among the weeds and grass were rather flimsy in construction; while those built on the bare rock were bulky and well made.

The commonest breeding water-bird was the Baird Cormorant (*Phalacrocorax pelagicus resplendens*) which was abundant on the mainland cliffs as well as on the steep sides of the small islands. Some of the nests of this species were easy to reach while others were practically inaccessible. The number of eggs laid was from two to four, generally three or four.

Several colonies of Brandt Cormorants (*Phalacrocorax penicillatus*) were found on flat-topped rocky islands. In one such colony 81 nests containing eggs were examined. Three of these contained five eggs each, the others mostly containing four which is, I believe, the usual complement. After watching these two species of cormorants at their nest-building we concluded that the moss composing the lining of the nests is all brought up from deep water, as the birds could be seen energetically diving for it in the deeper water altho it was plentiful in the shallows and on the rocks.

As to the breeding plumage of these two species, from our observations it is not nearly complete when incubation is begun. In four specimens of the Brandt Cormorant which I took with half-incubated eggs, the filaments on the sides of the throat were so small as to be practically unnoticeable altho those on the back were well developed. In three breeding specimens of the Baird Cormorant taken, the filaments on sides of neck have not developed; while in one female taken on the nest, the white flank patches are absent.

The Sea Pigeons (*Cephus columba*) commenced to breed the first week in May; and by May 20 their breeding season was at its height. Their eggs were deposited in crevices in the sides and roofs of caves some of which could be entered dry-shod at low tide. The nesting burrows were from six to fifteen feet above high water. The eggs were generally two in number, and were laid on the dirt which accumulated in the nest cavity. In two cases I found birds incubating one egg. From one of these nests I took the female bird and found on dissection that she had finished laying; so I believe that occasionally only one egg is laid. If the first set is taken, the birds will usually lay a second set in the same nest. The birds when disturbed give a peculiar whistle which resembles that of the male Anna Hummingbird in mating time, and seems singularly out of place coming from a bird of the size of the Guillemot.

Altho I took several eggs of the Tufted Puffin (*Lunda cirrhata*) in this locality in 1895, only a few pairs were noticed this year. They were evidently breeding on a rocky island about three-fourths of a mile out, as we watched them thru a glass going and coming from their nesting burrows. As no boat was obtainable and the water was too rough for so long a swim we were unable to inspect the nests.

The rarest of the breeding water-birds in this locality, and the one in which we were most interested, was the Black Oystercatcher (*Haematopus bachmani*). Along this fifteen miles of coast there were probably a dozen pairs breeding. The nests are difficult to locate, and even more difficult to reach after they are located. This bird, like the Killdeer, makes the greatest outcry at a point considerably distant from the nest, and the brooding bird will quietly slip from the nest at the first

intimation of danger and will appear on a point of rock some distance away, where she will be joined by her mate. Altogether we collected four sets of this species. Three of these were of three eggs each and one of two eggs.

To secure two of these sets I had to swim thru a dangerous surf and land on jagged rocks; and the other two were on the top of rocky pinnacles which were all but inaccessible. The nests are placed on the lea side of a rock or projection sheltered from the prevailing wind, sometimes only a few feet above high water and at other times far above the reach of the flying spray. They are shallow cavities in the rock or thin soil, thickly lined with sharp chips of rock evidently carried by the birds. Numerous scratches on the shells of the eggs show that they are frequently turned over by the birds who probably rely to some extent on the heat of the sun as an assistance in incubation.

The birds subsist principally on mussels and limpets, and the ease with which they pry them from the rocks with the sharp, chisel-like bill furnishes a striking example of the natural law of adaptation to surroundings. The rocks around the nesting sites are covered with the shells of molluscs brought there by the birds.

The statement that this species nests on gravelly beaches is erroneous as regards this locality. The first set of eggs was taken May 14, and was about half incubated. It was situated on a large flat-topped rock very difficult of access. There were breeding on the top of the same rock four pairs of Western Gulls and a colony of Brandt Cormorants; while on the precipitous sides were numerous nests of the Baird Cormorant; and in the caves at the base of the rock were two or three pairs of Sea Pigeons. The other three sets were taken on May 15, 16 and 17, respectively, and were on isolated rocks, the Oystercatchers being the sole inhabitants.

In ground color the eggs vary from grayish olive to greenish, spotted and blotched with black and dark brown, with lavender shell markings. Thirteen eggs measure in inches: Maximum, 2.38×1.58 ; minimum, 2.08×1.45 ; average 2.24×1.52 .

Los Angeles, California.

A LIFE HISTORY OF THE NORTHERN BALD EAGLE

By JOSEPH DIXON

WITH FOUR PHOTOS BY ANNIE M. ALEXANDER

I KNOW of no other Alaskan bird which seems to be more in keeping with the country than the Northern Bald Eagle (*Haliaeetus leucocephalus alascanus*).

While this bird is by no means restricted to the shore line of the Pacific between the southern boundary of Alaska and the base of the Alaska Peninsula, still I believe that it may be truthfully stated that nowhere else does it find a more congenial home or breed in larger numbers than along this thousand-mile stretch of islands, inlets and glacier-scoured coast.

In size, this eagle is considerably the superior of its cousins in "the states", since it is not uncommon to find female eagles that are more than thirty-seven inches in length, with a spread of seven feet and a half, or better. The males are, of course, quite a little smaller than the females and rarely equal the smaller females in size. The largest female that I secured had a spread of seven feet and nine inches; length, thirty-seven inches. The males seemed to average about a foot less than this in spread, and were about thirty-six inches in length. I was inter-